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EXAMINER	
MAKI, STEVEN D	

ART UNIT	PAPER NUMBER
1733	

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/627,758	MARTIN ET AL.	
	Examiner	Art Unit	
	Steven D. Maki	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 4-19-06.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-7 and 10-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,6,7 and 10-16* is/are rejected.

7)☒ Claim(s) *3 and 5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1) The disclosure is objected to because of the following informalities:

(1) On page 6 line 27, "height H equal to the depth P of the groove 3 (H = 0)" should be --height equal to the depth P of the groove 3 (H=0)--. See relationship of H and P in figure 1; it being noted that H=P and H=0 are different concepts. The height H (alternatively described a depth H) is the distance between the running surface and the upper surface of the bridge 5. When H = 0, the upper surface of the bridge is in contact with the road as described at page 6 lines 26-28. The rubber bridges have a height equal to P (the distance between the upper surface of the bridge and the bottom of a groove).

(2) With respect to the description of --3'"-- being shown in figure 5 (see amendment of paragraph beginning on page 7 line 12 filed 4-19-06), original figure 4 instead of original figure 5 illustrates --3'"--.

Appropriate correction is required.

2) The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3) Claims 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 describes "a tread comprising a contact face and lateral faces, and a plurality of these motifs in relief". It is unclear if the motifs have the lateral faces, or, alternatively, if the lateral faces define shoulders of the tread. It remains unclear what has the lateral faces. In claim 13, it is suggested to (1) on line 2, delete --a contact face

and lateral faces and-- and (2) on line 4, after "these motifs in relief" insert --having a contact face and lateral faces and--

Claim 16 is ambiguous since there is no antecedent basis for "the at least one orifice". In view of this lack of antecedent basis, it is unclear if claim 16 requires the orifice subject matter of claim 10. More specifically, it is unclear if claim 16 requires "at least one of the rubber connecting elements comprising at least one orifice passing through the whole of said at least one rubber connecting element to cause the volume of said cavity to communicate with a groove" (this being the missing antecedent basis in claim 16). Since (1) claims 16 recites "channel" and "orifice" and (2) applicant has clear support for combining the "channel" and "orifices" (lines 1-2 on page 8 of the specification), claim 16 appears to require "channel" and "at least one orifice" and the above noted subject matter form claim 10.

4) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6) **Claims 4 and 10-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Billingsley (US 2575439, already of record).**

Billingsley discloses a tire having a tread comprising circumferential grooves and ribs 19 (land portions) and **cavities 21** wherein a **vent opening 22** connects the cavity to one of the grooves to reduce noise.

As to claims 10, 12, 13 and 15, the claimed cavity reads on cavity 21 of Billingsley, the claimed orifice reads on vent opening 22. With respect to trap and compress air and practically insensitive to the compression of the rubber resulting from the contact with the roadway, note Billingsley's teachings that (1) the vent openings are not closed under weight of the vehicle (col. 2 lines 35-36) and (2) the vent openings reduce noise (col. 2 lines 50-55). The claimed rubber connecting elements read on the rubber through which the vent opening passes. In other words, the claimed rubber connecting elements can read the rubber forming the axially spaced apart sidewalls of the cavity 21 - this rubber extending from the running surface of the tread. Billingsley teaches that the ribs, which are separated by circumferential grooves, may be discontinuous - grooves oriented in the transverse direction and in the longitudinal direction of the tread thereby being defined.

As to claims 4, 11 and 14, H can be zero. See specification page 6 lines 26-28, figure 1, and amended paragraph for page 5 (page 2 of response filed 7-21-05).

7) **Claims 2, 4 and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billingsley and optionally at least one of Ishiyama (US 6668885 and Smith (US 864112).**

Billingsley is considered to anticipate claims 4 and 10-15.

In any event: it would have been obvious to one of ordinary skill in the art to form Billingsley's cavities and vent openings in blocks defined by circumferential grooves and transverse grooves since (1) Billingsley teaches forming cavities and vent openings in ribs between circumferential grooves of the tire tread, (2) Billingsley teaches that the ribs may be discontinuous (col. 2 lines 1-7) and optionally (3) Ishiyama suggests forming a row of blocks ("a discontinuous rib") between circumferential grooves of a tire tread.

Furthermore, it would have been obvious to configure Billingsley cavities and vent openings such that the cavities trap and compress air and the vent openings are practically insensitive to the compression of the rubber resulting from the contact with the roadway since (1) Billingsley teaches that (a) the vent openings (though which air passes) are not closed under weight of the vehicle (col. 2 lines 35-36) and (b) the vent openings reduce noise (col. 2 lines 50-55) and optionally (2) Smith, also teaching a tire having passages through which air passes, teaches that air is compressed in cavities.

As to claim 2, the claimed shape for the orifice would have been obvious and could have been determined without undue experimentation in view of Billingsley's teaching to form the vent opening such that the openings are not closed under the weight of the vehicle (col. 2 lines 33-34-38).

8) **Claims 6, 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billingsley and optionally at least one of Ishiyama and Smith as applied above and further in view of Japan 227 (JP 2001-130227).**

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

As to claims 6, 7 and 16, it would have been obvious to one of ordinary skill in the art to form a narrow circumferential groove having an upper part 26A (incision) part and a lower part 26B (channel) in Billingsley's discontinuous ribs since Japan 227 suggests forming such a narrow circumferential groove in a block like land portion ("a discontinuous rib") to enhance wet performance.

9) **Claims 6, 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billingsley and optionally at least one of Ishiyama and Smith as applied above and further in view of Watanabe (US 6315018) or Japan 908 (JP 2-303908).**

As to claims 6, 7 and 16, it would have been obvious to one of ordinary skill in the art to form a circumferentially extending sipe having a narrow part at the tread surface and a wide part below the tread surface such that the sipe passes through the whole of the motif in relief of Billingsley's discontinuous rib since (1) it is taken as well known / conventional in the tire tread art to form both end opening sipes in bocks such that the sipes extend in either the transverse or longitudinal direction in order to improve traction and (2) (a) Watanabe suggests forming a sipe through the whole of a block in a tire tread to improve wet performance and improve drainage after wear to compensate for deterioration of drainage performance of grooves due to their reduced depth after wear (figure 1, 2) or (b) Japan 908 suggests forming a sipe through the whole of a block

to improve driving and braking performance on wet road and obtain good drainability (abstract, figures 5-6).

Allowable Subject Matter

10) **Claims 3 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

Remarks

11) Applicant's arguments filed 4-19-06 have been fully considered but they are not persuasive.

With respect to background regarding claim interpretation, examiner offers the following remarks: First: Each of claims 2-7 and 10-16 read on H=0 (connecting elements extending from running surface of tread). See claims 12, 15 and amended paragraph for page 5 (page 2 of response filed 7-21-05). The subject matter of motifs being interconnected by connecting elements, a cavity and H= 0 is the same as the subject matter of a land portion (e.g. rib or elongated block or a discontinuous rib) having a cavity. This situation is analogous to the number "6" having the same scope as "half a dozen". Second: Each of the claims 2-7 and 10-16 require "at least one orifice". Claims 6, 7 and 16 require the combination of "at least one orifice" and "channel" and thereby exclude the illustrated embodiment of figure 5, which has channels 91, 92, but not "at least one orifice". The support for claims 6, 7 and 16 is found at lines 1-2 of page 8 of the specification, which describes combining both the presence of a channel and of orifices.

With respect to background regarding prior art, Billingsley teaches reducing noise by communicating a cavity 21 to a groove using a vent opening 22 (orifice).

Applicant argues that Billingsley discloses providing cavities within the motifs rather than in one of the grooves. This argument is not persuasive since the term "groove" as used in the present claims is not required to be continuous along the entire region between the "motifs". This region may be interrupted by connecting elements extending from the running surface of the tread. See claims 12 and 15. The resulting structure is one land portion wherein the one land portion has a cavity but no notches (when the connecting elements with H=0 are at the ends of the "groove") or the one land portion has a cavity and two notches (when the connecting elements are spaced from the ends of the groove). The former is found in Billingsley. The latter ("H=0") and notches can be visualized with the aid of applicant's figure 2 since although figure 2 is an illustration of the figure 1 tread after wear, the height H for the worn tread of figure 2 equals zero. As can be seen from figure 2, figure 2 illustrates one land portion having a cavity and notches. None of the present claims require the connecting elements to be placed in the "groove" such that the connecting elements are spaced from (*in contrast to* at) the ends of the "groove". In Billingsley, figures 1 and 2 illustrate an embodiment in which the "connecting elements" are "at" the ends of the "groove".

Applicant's arguments regarding Ishiyama (optional reference) are not persuasive since to the extent that claim 10 requires blocks, Billingsley' suggestion to use cavities and a discontinuous rib and Ishiyama's disclosure of a row of blocks each

having a cavity, provides ample suggestion to make Billingsley's discontinuous rib such as a "row of blocks" is formed.

Applicant's arguments regarding Smith (optional reference) are not persuasive since Smith constitutes evidence that air is compressed in the cavities of Billingsley.

With respect to claim 16, applicant argues that claim 16 is directed to the embodiment of figure 5. Examiner disagrees. **Claim 16 excludes the embodiment of figure 5 since claim 16 requires a "channel" and "at least one orifice".** Claim 16 is directed to the embodiment at page 8 lines 1-2 of the specification instead of figure 5 per se.

With respect to the application of Japan 227, Watanabe or Japan 908 against claim 16, each of these references suggest *adding* the claimed channel (wide bottom part of sipe) to discontinuous rib of Billingsley such the resulting tread comprises cavities and orifices and channels. Also, the longitudinal orientation is suggested by the disclosure in Japan 227 or the previously stated official notice of "it is taken as well known / conventional in the tire tread art to form both end opening sipes in bocks such that the sipes extend in either the transverse or longitudinal direction in order to improve traction".

12) **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven D. Maki
July 9, 2006

Steven D. Maki 7-9-06
STEVEN D. MAKI
PRIMARY EXAMINER